

Application No. 09/530,948
Reply to Office Action of August 13, 2003

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A process ~~Process~~ for relaying IP frames ~~in the form of~~ as PDU application frames within an ATM switch with a distributed architecture and egress storage comprising a management module and ~~several plural~~ ingress and egress junctors having a routing emulation function ensuring IP frame routing between the users of various ELAN media, ~~and represented in wherein~~ each of ~~these ELANs~~ the ELAN media is represented by ~~its a~~ router LEC module, ~~characterized in that it consists in~~ the process comprising:

offloading ~~the a~~ frame relay function into ~~the an~~ ATM layer of the junctors by examining ~~the a~~ first cell of each of the PDU application ~~frame~~ frames arriving at an ingress junctor ~~so as to~~ extract therefrom ~~the an~~ IP address of ~~the a~~ destination, by searching in a cache table of ~~the a~~ junctor for a pair opposite ~~the a~~ relevant IP address and opposite ~~the an~~ ingress logical path and by using ~~the a~~ translation obtained for all ~~the~~ cells of ~~the a~~ PDU application frame, the cache table being updated by ~~virtue of the~~ routing information originating from the routing emulation function residing in the management module; and ~~in that it consists in~~ transmitting a request to update the cache table to the management module if the sought-after IP address is not located in the cache table ~~thereat or if the information opposite this address is too old.~~

Claim 2 (Currently Amended): The process ~~Process~~ according to Claim 1, ~~characterized in that it consists in~~ further comprising:

performing ~~a double~~ first and second translation translations, wherein ~~[[a]]~~ the first translation in each of the ingress junctors ~~junctor so as to transform the~~ transforms a first logical path number ~~VLI (UX)~~ between ~~the a first~~ user ~~UX~~ and the LEC module of the router relating to the ELAN media to which the first user ~~UX~~ belongs and the IP address of ~~the a~~

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destination of each of the PDU application frame frames originating from the first user (UX) applied to the ingress of a junctor into an internal index number VM (UX, UY) and an identifier number [[L_j]] of an egress junctor, and wherein [[a]] the second translation in each of the egress junctors junctor so as to transform transforms the internal index number VM (UX, UY) into a second logical path number VLi (UY) associated in the an egress junctor with the a direct connection between the a second user UY and his a corresponding router LEC A modulend module and a queue number for the egress junctor allocated to the pair (UX, UY) first and second users.

Claim 3 (Currently Amended): The process Proecess according to Claim 1, characterized in that it consists further comprising:

[[- in]] allocating in each of the egress junctor junctors a queue for each user pair of the first and second users, wherein the second of whom user is attached to the a relevant junctor, that is to say such that the a direct connection between himself the second user and the corresponding router LEC module passes through this the relevant junctor[[,]]; and

[[- in]] dynamically allocating the internal indices and the egress queues in conjunction with the updating of the ingress translation caches[[,]]; and

[[- and in]] using a mode for arbitration in PDU mode between the various queues so as to ensure the transmission of the cells without interleaving of the PDU application frames.

Claim 4 (Currently Amended): The process Proecess according to Claim 2, characterized in that it consists further comprising:

[[- in]] allocating in each of the egress junctor junctors a queue for each user pair of the first and second users, wherein the second of whom user is attached to the a relevant

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junctor, ~~that is to say~~ such that ~~the~~ a direct connection between ~~himself~~ the second user and the corresponding router LEC module passed through ~~this~~ the relevant junctor[[,]];

[[- in]] dynamically allocating ~~the~~ internal indices and the egress queues in conjunction with ~~the~~ updating of ~~the~~ ingress translation caches[[,]]; and

[[- and in]] using a mode for arbitration in PDU mode between the ~~various~~ queues ~~so~~ as to ensure ~~the~~ transmission of the cells without interleaving of the PDU application frames.

Claim 5 (New): The process according to Claim 1, wherein the pair comprises a logical path and an outbound direction as data entries in the cache table.

Claim 6 (New): A process for relaying IP frames as PDU application frames within an ATM switch with a distributed architecture and egress storage comprising a management module and plural ingress and egress junctors having a routing emulation function ensuring IP frame routing between users of ELAN media, wherein each of the ELAN media is represented by a router LEC module, the process comprising:

offloading a frame relay function into an ATM layer of the junctors by examining a first cell of each of the PDU application frames arriving at an ingress junctor to extract therefrom an IP address of a destination, by searching in a cache table of a junctor for a pair opposite a relevant IP address and opposite an ingress logical path and by using a translation obtained for all cells of a PDU application frame, the cache table being updated by routing information originating from the routing emulation function residing in the management module;

transmitting a request to update the cache table to the management module if the sought-after IP address is not located in the cache table; and

performing first and second translations, wherein the first translation in each of the ingress junctors transforms a first logical path number between a first user and the LEC module

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of the router relating to the ELAN media to which the first user belongs and the IP address of a destination of each of the PDU application frames originating from the first user applied to the ingress of a junctor into an internal index number and an identifier number of an egress junctor, and wherein the second translation in each of the egress junctors transforms the internal index number into a second logical path number associated in an egress junctor with a direct connection between a second user and a corresponding router LEC A module and a queue number for the egress junctor allocated to the first and second users.

Claim 7 (New): The process according to Claim 6, further comprising:

allocating in each of the egress junctors a queue for each of the first and second users, wherein the second user is attached to a relevant junctor such that a direct connection between the second user and the corresponding router LEC module passed through the relevant junctor;

dynamically allocating internal indices and the egress queues in conjunction with updating of ingress translation caches; and

using a mode for arbitration in PDU mode between the queues to ensure transmission of the cells without interleaving of the PDU application frames.

Claim 8 (New): The process according to Claim 6, wherein the pair comprises a logical path and an outbound direction as data entries in the cache table.

Claim 9 (New): A process for relaying IP frames as PDU application frames within an ATM switch with a distributed architecture and egress storage comprising a management module and plural ingress and egress junctors having a routing emulation function ensuring IP

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frame routing between users of ELAN media, wherein in each of the ELAN media is represented by a router LEC module, the method comprising:

offloading a frame relay function into an ATM layer of the junctors by examining a first cell of each of the PDU application frames arriving at an ingress junctor to extract therefrom an IP address of a destination, by searching in a cache table of a junctor for a pair opposite a relevant IP address and opposite an ingress logical path and by using a translation obtained for all cells of a PDU application frame, the cache table being updated by routing information originating from the routing emulation function residing in the management module;

transmitting a request to update the cache table to the management module if the sought-after IP address is not located in the cache table;

allocating in each of the egress junctors a queue for each of the first and second users, wherein the second user is attached to a relevant junctor such that a direct connection between the second user and the corresponding router LEC module passes through the relevant junctor;

dynamically allocating internal indices and the egress queues in conjunction with updating of ingress translation caches; and

using a mode for arbitration in PDU mode between the queues to ensure transmission of the cells without interleaving of the PDU application frames.

Claim 10 (New): The process according to Claim 9, wherein the pair comprises a logical path and an outbound direction as data entries in the cache table.